December 20, 2001

Mr. Paul H. Genoa, Senior Project Manager
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Nuclear Energy Institute
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SUBJECT: REPORT OF DECEMBER 4, 2001, MEETING WITH NUCLEAR ENERGY INSTITUTE'S LICENSE TERMINATION TASK FORCE REGARDING QUESTION AND ANSWER (Q&A) INITIATIVE, Q&AS 1-10

Dear Mr. Genoa:

Enclosed is a report of the December 4, 2001, meeting between staff of the U.S. Nuclear Regulatory Commission and representatives of the Nuclear Energy Institute's License Termination Task Force, regarding the Question and Answer (Q&A) Initiative. If you have any questions regarding the enclosure, please contact Jean-Claude Dehmel at (301) 415-6619 or Stewart Schneider at (301) 415-7765.

Sincerely,

/RA/

Larry Camper, Chief
Decommissioning Branch
Division of Waste Management
Office of Nuclear Material Safety
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Enclosure: December 4, 2001, Meeting Report
cc: Attached List

cc:

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MEETING REPORT

Date: December 4, 2001

Time: 8:30 AM to 4:00 PM

Place: U.S. Nuclear Regulatory Commission (NRC)
OWFN 8-B4
11545 Rockville Pike
Rockville, MD 28052

Purpose: Working level meeting to discuss Nuclear Energy Institute's (NEI's) License Termination Task Force Q&As 1-10

Attendees: See Attachment 1

Background:

In an effort to clarify existing guidance associated with the License Termination Rule (10 CFR 20, Subpart E), NRC and NEI's License Termination Task Force (Task Force) agreed to the following process:

The Task Force will generate questions (Qs) associated with decommissioning issues that are common to most licensees. The Task Force will also generate answers (As) to the questions, and submit the Q&As to NRC for review. After NRC completes its review, it will either approve or disapprove the Q&As and provide comments to the Task Force on those that were not found acceptable. Disapproved Q&As can be withdrawn, or the Task Force can revise and resubmit the Q&As, after satisfactorily addressing NRC comments. The approved Q&As will be incorporated into the draft guidance consolidation documents, which will be published for public comment. Any public comment on the Q&As will be addressed by the NRC writing and review teams, and the final Q&As would be published as an appendix in the final guidance consolidation document.

On July 16, 2001, NEI submitted the first 10 Q&As (ADAMS Accession Number: ML012060358), which addressed issues associated with characterization, dose modeling, and conduct of final status surveys. NRC reviewed the Q&As and the supporting technical basis, and provided preliminary comments to NEI on September 28, 2001 (ADAMS Accession Number: ML012740101). A meeting was held between NRC, NEI, and industry representatives on December 4, 2001, to discuss each Q&A and work through the technical issues to ensure that the questions were properly answered and supported by a defensible technical basis.

Discussion:

NRC and industry representatives discussed each Q&A, technical basis, and NRC's comments, clarifying the industry's intention for each question and clarifying what additional information or revisions were needed for NRC to find the Q&A acceptable. A summary of the discussion on each Q&A follows:

Q&A 1

- The intention of Q&A 1 is to give licensees a starting point for what radionuclides should be included in the radionuclide profile for characterization of light water reactor sites.
- The revised Q&A 1 should incorporate the following, in order to be acceptable to NRC:
  - In general, the Q&A should be restructured so as to be more specific and provide more details and should not include vague qualifiers, such as "... are typically considered."
  - Q&A should reflect the technical considerations and limitations discussed in NUREG/CR-3474, "Long-Lived Activation Products in Reactor Materials," and NUREG/CR-0130, "Technology, Safety and Cost of Decommissioning."
  - Q&A should reflect that the list is not meant to be all-inclusive, and other radionuclides may need to be included in the initial radionuclide profile based on site operational history, fuel failures, ORIGEN runs, Part 61 analysis, etc., and reflect their inherent limitations.
  - The reference to the Health Physics Society paper and presentation will be deleted.

Q&A 2

- The revised Q&A 2 should incorporate the following, in order to be acceptable to NRC:
  - Q&A should remove references to "detectability," as the *10% rule* refers only to dose due to residual radioactivity, and is not specific to the issue of detectable radionuclides.
  - The Task Force will generate a separate question addressing whether the *10% rule* applies to radionuclides that are less than the minimum detectable concentration (MDC).
  - Question should remove reference to "gross," and just refer to "DCGLs."
  - Answer and basis should clarify that "total dose" refers to the "Radiological criteria for unrestricted use," in 10 CFR 20.1402, without using footnotes.
  - Answer should reference Appendix E of NUREG-1727, "NMSS Decommissioning Standard Review Plan," as the basis for the 10% value.
  - Basis should not include numbered items 1, 2, and 3, as these are not applicable to this Q&A.

Q&A 3 and Q&A 4

- Questions 3 and 4 should be combined.
- The revised Q&A 3/4 should incorporate the following:
  - Q&A should demonstrate that the chosen exposure scenario is limiting (e.g., as opposed to exposure to workers during demolition, followed by disposal of debris in a landfill), and supporting dose assessments should be expanded to included inhalation and ingestion pathways.
  - Q&A should include definitions of "embedded" and "grouted," and should discuss capping and the durability of grout, relative to the concrete in which the pipe is embedded.
- NRC will further consider the dose modeling issues involved to determine what scenarios/exposure pathways must be considered for embedded pipe.
- Since the revised Q&A will essentially offer a new screening limit analogous to those presented in Appendix C of NUREG-1727 and NUREG/CR-5512, Volume 3, "Residual Radioactive Contamination from Decommissioning: Parameter Analysis," the NRC will have to determine whether the proposed value for embedded pipe is consistent with the previous screening limits.

Q&A 5

- The revised Q&A 5 should incorporate the following, in order to be acceptable to NRC:
  - Q&A should further discuss the major points of the EPRI report, such as its recommendations, limitations, and conclusions.
  - Q&A should refer the reader to the EPRI report, and note that the licensee, in choosing a method to survey embedded pipe, needs to consider such things as, the limitations of the techniques, pipe surface condition, instrument detection efficiencies for the selected radionuclide of reference, uncertainties associated with the EPRI report, and survey method data quality objectives (DQO).
  - Q&A may reference the DOE Innovative Technology Reports related to this issue.

Q&A 6

- NEI submitted a revised Q&A 6 (see Attachment 2).
- NRC will review the revised Q&A 6, further consider the following issues, and schedule a meeting/conference call to discuss:
  - Appropriateness of using DandD default distribution/partition coefficients (k_ds) in other dose modeling codes, without proper justification.
  - Clarification of related sections of Appendix C of NUREG-1727:
    - 7.2.3: Justifying Site-Specific Parameter Values states, “If a licensee relies on the DandD default values for the physical parameters describing geochemical conditions (i.e., partition coefficients)..., the staff should evaluate whether the default parameters are inconsistent with known or expected conditions at the site.”
    - 7.3.4: RESRAD Default Deterministic Parameter Set
    - 7.4.1: Modifying the DandD Default Probabilistic Parameter Set
    - 7.4.2: Modifying the RESRAD Default Probabilistic Parameter Set states, “For the physical parameters describing geochemical conditions (i.e., distribution coefficients), the licensee should use values that are consistent with the DandD default values, as long as the values are not inconsistent with known or expected site conditions. Justification supporting the values should be based on sensitivity analysis.”

Q&A 7

- Same issues as Q&A 6

Q&A 8

- The revised Q&A 8 should incorporate the following, in order to be acceptable to NRC:
  - Q&A should clarify that the DQO process, acceptance criteria for instrumentation selection, example calculations of scan and fixed MDCs, etc., will be included in the LTP.
  - Q&A should clarify that the licensee needs to demonstrate its understanding of the process used to select instruments, by providing an example instrument for each type of survey. The Q&A should also note that it is not necessary for the licensee to use the example instrument, and the licensee may use the process (approved in the LTP) to substitute or use another instrument of equal of better performance, without submitting an amendment of the LTP.

Q&A 9

- The revised Q&A 9 should incorporate the following, in order to be acceptable to NRC:
  - Q&A should point out that the characterization information will be used to address other areas of the LTP, such as, Chapters 3: Identification of Remaining Site Dismantlement Activities, 4: Remediation Plans, 5: Final Radiation Survey Plan, 7: Update of Site-Specific Decommissioning Costs, and 8: Supplement to the Environmental Report.
  - Q&A should note that additional characterization data is not necessarily required, but data from operations and other monitoring requirements before and after plant shutdown can be summarized.

Q&A 10

- The revised Q&A 10 should incorporate the following, in order to be acceptable to NRC:
  - Question should limit its scope to only Class 1 areas.
  - Refine the basis and note that additional characterization data, in addition to the HSA, will be required for structuring the DQOs and designing the final status survey.

Additional Discussion:
The Task Force expects to submit 30 additional Q&As by the end of calendar year 2002, and may submit approximately 50 Q&As total. It is expected that the first 10 Q&As, if found acceptable by NRC, will be included in the draft guidance consolidation documents that will be published for public comment in early 2002. Since the remaining Q&As will not meet the schedule for being included in the draft guidance consolidation documents, they will be published in the Federal Register and posted on NRC's website, so that the public has an opportunity to comment on them. After addressing the public comments, NRC will publish the final acceptable Q&As in the final guidance consolidation documents.

Actions:

The Task Force will revise questions 1, 2, 5, and 8-10, addressing all of the issues listed above. NRC staff will be available to answer questions, as the revisions are made. The Task Force will submit the revised Q&As by January 2002. It will also expand the dose assessments supporting Q&A 3 and 4, as discussed above.

NRC will further consider the issues associated with Q&As 3-4 and 6-7, as discussed above. NRC will schedule a conference call (in January 2002) with the appropriate industry representatives to discuss Q&A 6-7 further. NRC will also clarify Sections 7.2.3, 7.4.1, and 7.4.2 of Appendix C of NUREG-1727, as they present conflicting recommendations on the use of default parameters, sensitivity analysis, and justification when combining default with site-specific values.

Attachments:

1. Meeting Attendees
2. Revised Q&A 6, dated November 14, 2001